change the coefficient of a^2y^2 from 96 to 100 the equation represents the straight lines $y = \pm x$ and the circle $x^2 + y^2 = 100$, to which system of lines the curve is therefore closely asymptotic. I conjecture that the curve was originated in this way and has not heretofore been known as a geometrical locus. Can any of your readers throw any light on the history of this curious curve and its startling title?

Answer to Prof. Hall's Query, by Prof. W. W. Johnson.

Prof. Cayley proposed the question "Find the number of regions into which infinite space is divided by n planes" in the Smith Prize Examination Feb. 3rd, 1874, and published in the Mathematical Messenger for march 1874, "Solutions and remarks" on the paper of that day. He says he intended the questson for a problem, as the result, though a known, is not a generally known one. His solution is substantially as follows: Consider the analogous problem for lines in a plane. An additional line adds to the number of regions one for every part into which it is itself divided by the other lines. Hence, 1, 2, 3, 4 &c. lines divide a plane into 2, $2+2(=4)$, $4+3(=7)$, $7+4(=11)$ &c. regions; the general term being $\frac{1}{2}(n^2+n+2)$. In like manner an additional plane adds to the number of regions in space one for every region in to which it is itself divided by the other planes. Hence 1, 2, 3, 4, &c. planes divide space into 2, $2+2(=4)$, $4+4(=8)$, $8+7(=15)$, $15+11(=26)$ &c. regions; the general term being $\frac{1}{6}(n^3 + 5n + 6)$.

[Mr. G. W. Hill obtains the same result as answer to Prof. Hall's Query and by analogous reasoning, employing however in his investigation the Calculus of Finite Differences.

It will be observed that the question as proposed by Prof. Cayley is not identical with that proposed by Prof. Hall; as Prof. Cayley requests the number of regions into which infinite space *is* divided by n planes, whereas Prof. Hall asks, "Into how many parts *can* n planes divide space."

That the answer given is not *necessarily* the answer to Prof. Cayley's question follows from the fact that nothing in Prof. Cayley's announcement of the question precludes the possibility (theoretically at least) of some or all of the planes being parallel, in which case the answer would obviously not be correct: If drawn at random, however, the probability of such a contingency is infinitely small.—Ed.]

Answer to President Tappan's Query, by Prof. J. Scheffer.

It is. The French mathematician *Fermat* who published quite a number of theorems in regard to prime numbers, erroneously asserted that all the